

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-11 (canceled)

Claim 12 (currently amended): The process according to claim 24, wherein the initiator molecule comprises a chlorosilane, an alkoxysilane, a disulphide or a thiol group.

Claim 13 (currently amended): The process according to claims 24 or 12 wherein the initiator molecule comprises a group chosen from azo groups, peroxo groups, or a ketone group in conjugation with an aromatic system.

Claim 14 (currently amended): The process according to claim 13, wherein the initiator molecule comprises a group chosen from aromatic ketones or aromatic ketones containing sulphur.

Claims 15-23 (canceled)

Claim 24 (currently amended): A process for the production of a surface comprising polyfunctional copolymer monolayer, comprising an assembly of single copolymer chains attached to a said surface, wherein each copolymer chain comprises a multitude of identical or different units carrying one or more functional groups which allows an interaction of the copolymer chain with a sample or probe molecule, comprising the steps of:

a) immobilizing a monolayer of radical polymerization initiators molecules on said surface to produce an initiated surface, wherein each of said initiators molecules comprises one or more functional groups for linkage to the surface and a functional group for subsequent initiation of a polymerization reactions on said initiated surface;

b) initiating polymerization reactions on said initiated surface ~~in the presence of with~~ (a) a first set of identical or non-identical monomers, each of which comprises (1) at least one functional group which ~~can~~ interacts with a sample or probe molecule and (2)

at least one C-C double bond, and (b) a comonomer containing at least one C-C double bond, and then

c) growing copolymer chains from said initiated surface in the presence of said set of monomers and said comonomer by a radical polymerization chain reaction involving reaction of the C-C double bond of said set of monomers and said comonomer;

wherein the ~~assembly~~ growing of the copolymer chains ~~produced~~ in step c) linked to said surface results in ~~a polyfunctional~~ single copolymer chains attached at a terminus thereof to said surface, and which interact with a sample or probe molecule on said surface monolayer.